

Sub C1
Examiner
MM 3/7/01
B2

IN THE CLAIMS:

1. (twice amended) [Aqueous suspensions] An aqueous suspension of insecticidally active compounds comprising:

- 0.1 to 12.5% of [a solid] an active compound in the form of a solid applied as a coating to an inorganic carrier having a particle size of 1 to 30 µm,
- 2.5 to 10% auxiliaries,
- 62.5 to 97.4% of water,
- 0 to 15% of glycerol,

the percentages are % by weight of the suspension.

Please add the following new claim:

--2 The suspension of Claim 1 wherein the active compound is β -cylfluthrin.--

REMARKS

Claims 1 and 2 are in the application. Claim 1 has been amended to recite the invention more clearly and distinctly. As amended, the claim categorically recites that the active ingredient employed in preparing the claimed aqueous suspension is in the form of a solid. Claim 2 has been added to cover the presently preferred embodiments of the aqueous suspension wherein the active compound is β -cylfluthrin which is a solid.

The claims reciting solid active compounds are patentably distinct over prior art employing liquid or semi solid forms of active compounds. The distinction is presented more fully hereunder by summarizing the claimed invention, stating the rejection and how Applicants have overcome or avoided them.

Summary of the Invention

As the Examiner gathers from the application, the invention addresses the need for aqueous suspensions of solid active compounds. The challenge with many suspensions resides in making them stable in a cost-effective manner, without using solvents systems that raise questions about their environmental effect. Applicants have provided a suspension, which meets the challenge and which is further

advantages as described below. Accordingly, Applicants claim an aqueous suspension comprising:

- a) 0.1 to 12.5% of an active compound in the form of a solid applied as a coating to an inorganic carrier having a particle size of 1 to 30 μm ,
- b) 2.5 to 10% auxiliaries,
- c) 62.5 to 97.4% of water,
- d) 0 to 15% of glycerol;

the percentages are % by weight of the suspension

The aqueous suspension based on a solid active compound is cost effective; it has excellent storage stability and very good dispersibility in water. And, it is free of problem associated with solvents, which raise questions about environmental effects. Thus formulations according this invention are particularly suitable for preparing spray liquids for professional use in pest control in households, industrial buildings and building for livestock. See the captioned application at page 2, lines 9-13.

Summary of Applicant Arguments

The Examiner has asked that applicants to clarify the form of the active compounds recited by the claims. Applicants do so by presenting an amendment to the claims, clearly and distinctly reciting that the active compound is in a solid form. Bases for the amendment is found more specifically at page 4, lines 4-11 of the captioned application.

The element of claim relating solid active compounds coated on carriers in the manner of this invention is completely lacking in the relevant prior art. The difference is acknowledged by the cited prior art. Therefore, the claims differ from the prior art and are not anticipated.

The claims are unobvious because the prior art lack a basis for modifying the referenced invention to the claims with a reasonable expectation of success.

At any rate, any presumption of obviousness is rebutted by the properties and advantages: cost effectiveness, excellent storage stability, very good dispersibility in

water, and freedom from problem associated with solvents, which raise questions about environmental effects.

Statement of the Rejections and How Applicants Have Overcome or Avoided the Same.

Claim 1 was rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Ackerman et al EP 0029626. The rejection was based on the grounds that:

"Applicant argues the actives are not solid; instant p. 3 shows preferred pyrethroids include cypermethrin. Example of Ackerman uses cypermethrin. Applicant should show how applicants' cypermethrin is solid, while Ackerman's is not. See p.6 of Ackerman; the carrier is coated with pyrethroid; The instant invention as claimed."

In essence, the Examiner has asked that Applicants establish that the claims recite an active compound, which is a solid. Applicants have done so by amending the claim to clearly and distinctly recite that the claimed aqueous suspension is based on an active compound in the form of a solid. Newly added Claim 2 recites β -cyfluthrin, which is a solid.

In contrast, Ackerman, read for what it stands, relates to formulations based on liquid or semi-solid active compounds coated on solid carriers, which are suspended in water using several auxiliary agents. The closest Ackerman comes to claims is in the background information, referring to suspension concentrates at page 2, lines 3-14:

"Although pesticides in the form of emulsifiable concentrates are preferred ... they suffer from the disadvantage of being based on an organic, normally aromatic solvent system and thus attract criticism on toxicological and environmental grounds. This problem can be overcome by formulating the pesticide as water-based suspension commonly known as 'suspension concentrate' formulation which consists of finely-divided water-insoluble normally solid pesticides suspended in water. Many pyrethroid insecticides are liquid or semi-solid materials, and therefore not susceptible to formulation as suspension concentrates.

Accordingly, the present invention provides a water-based pesticidal suspension comprising (a) a liquid or semi-solid pyrethroid insecticide ..." (Delineation is Applicants' for emphasis).

From the above it is quite clear and Ackerman acknowledges that an aqueous suspension based on an active compound that is a liquid or semi-solid and one based on an active compound that is a solid differ. Therefore, Ackerman does not anticipate the claims. It is well established that for a reference to anticipate under 35 USC 102(b), it must teach all elements of the claims. In this instance, in failing to teach the element of the claim of a solid active compound coating a carrier, Ackerman does not anticipate the claims under 35 USC 102(b). Therefore, Applicants pray for the withdrawal of this rejection.

Applicants hasten to note that the Examiner's point that pyrethroid such as cypermethrin are liquid or semi-solid is well taken. This is due, at least in part to their technical quality usually in the form of mixtures of different isomers. Illustratively, while cyfluthrin is liquid, β -cyfluthrin is solid. As amended the claimed aqueous suspension is essentially based on solid active compounds and, for that matter, pyrethroids in the form of solids. To the extent that Ackerman did not teach the element of a solid active compound coating a carrier, Applicants reiterate that it does not anticipate the claims as amended.

Applicants pray for the withdrawal of the obviousness rejection because Ackerman is insufficient for a prima facie case, in that it fails to provide a basis for modifying the referenced invention to the claims with a reasonable expectation of success. It is well established that for a reference to render a claim obvious, it must contain a basis for modifying it to the claims. Ackerman lacks any basis for modifying its liquid or semi-solid based suspension to a solid based suspension. To the contrary Ackerman teaches away from the claims in suggesting that the line of development adopted by the claims is unlikely to produce the results sought by the claims. The lack of reasonable expectation of success is perhaps better illustrated by showing that the solid active compounds of the claims would be unsuitable for Ackerman's suspension. For example, β -cyfluthrin, which is a solid would not be soluble in the emulsifying agents described by Ackerman. Consequently, one would ordinarily obtain a mixture of solid β -cyfluthrin particles and separate particles of the carrier. The active compound would not coat the carrier. Surely, the Examiner would conclude that the resulting mixture would not provide the properties and advantages of the claimed suspension. Conversely, if one were to employ a semi-solid active

compound in an attempt to prepare a suspension as recited by the claims, the resulting suspension would ordinarily be plagued with problems of agglomeration of fine particles. As such, one would be hard pressed to argue that Ackerman suggests the claims with a reasonable expectation of success. Applicants therefore pray for the withdrawal of the obviousness rejection.

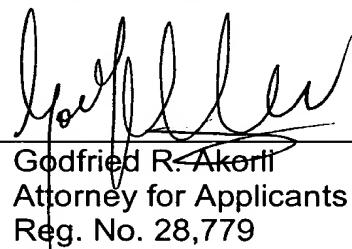
Finally, any presumption of obviousness is rebutted by the properties and advantages of the aqueous suspension covered by the claims: they are cost effective; they have excellent storage stability, very good dispersibility in water, and they are free of problem associated with solvents, which raise questions about environmental effects.

In view of the foregoing, the Examiner is justified in allowing the claims in the application.

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